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Miscellaneous

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- Protective Effects of Tea Melanin against 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin-Induced Toxicity: Antioxidant Activity and Aryl Hydrocarbon Receptor Suppressive Effect
Y.-C. Hung, G. S. Huang, V. M. Sava, V. A. Blagodarsky, and M.-Y. Hong 2284

About the cover: Serine β -lactamases make a complex with β -lactam antibiotics (acylation) to inactivate them by the subsequent reaction (deacylation). If a β -lactam antibiotic works as an inhibitor, the deacylation does not take place. Molecular dynamics simulation on serine β -lactamase (class D β -lactamase)-inhibitor (meropenem (Mer)) complex was performed to clarify this mechanism. Although the catalytic water (Wat) is held at the catalytic center by two residues (Lys70 and Trp154), Wat is apart from the carbonyl group of Mer (4.93 Å) because of an α -conformation of its side chain at the 6th position. Accordingly, it is hard for Wat to attack the carbonyl group. This is one of the inhibition mechanisms by serine β -lactamase inhibitors. See the review by Hata *et al.* on page 2151 of this issue.